

Yakima Valley Dairies
SDWA-10-2013-0080

Residential Well Sampling

Data Usability Summary Report
Sample Delivery Group(s)
SWF0030 and SWF0049

July 15, 2013



A handwritten signature in black ink that reads "Amy Goldberg Day".

Amy Goldberg Day
Project Chemist

A handwritten signature in purple ink that appears to read "Steve Hicks".

Steve Hicks, PE
Quality Manager

A handwritten signature in blue ink that reads "Kevin M. Freeman".

Kevin M. Freeman, PG
Project Coordinator

**Data Usability Summary Report
Sample Delivery Group(s)
SWF0030 and SWF0049**

Residential Well Sampling
Yakima Valley Dairies
SDWA-10-2013-0080

Prepared for:
Yakima Valley Dairies

Prepared by:
ARCADIS U.S., Inc.
695 North Legacy Ridge Drive
Suite 200
Liberty Lake
Washington 99019
Tel 509 928 3369
Fax 509 928 3075

Our Ref.:
SK030326.0001
SK030334.0001
SK030335.0001

Date:
July 15, 2013

Summary	1
Analytical Data Package Documentation	1
Laboratory Analysis	2
Nitrate	3
Holding Times	3
Blank Contamination	3
Matrix Spike/Matrix Spike Duplicate Samples	4
Laboratory Control Sample/Ongoing Precision and Recovery Analysis	4
Field Duplicate Sample Analysis	5
System Performance and Overall Assessment	6
 Tables	
1 Summary of Analytical Results, Sample Delivery Group SWF0030	
2 Summary of Analytical Results, Sample Delivery Group SWF0049	
 Appendices	
A TestAmerica Labs Analytical Report SWF0030	
B TestAmerica Labs Analytical Report SWF0049	

Summary

This Data Usability Summary Report summarizes the review of Sample Delivery Group numbers SWF0030 and SWF0049 for samples collected under the Yakima Valley Dairies Residential Well Sampling Quality Assurance Project Plan (QAPP). This assessment of data validation and usability was performed per the guidance and requirements established under Section 4 of the QAPP.

Samples in Delivery Group numbers SWF0030 and SWF0049 were collected from residential wells per the QAPP during the period June 4 to June 5, 2013. This review was conducted as a Tier II evaluation and included review of data package completeness. Only analytical data associated with nitrate were reviewed for this validation. Field documentation was not included in this review.

Analytical Data Package Documentation

The table below is the evaluation of the data package completeness.

Items Reviewed	Reported		Performance Acceptable	
	No	Yes	No	Yes
1. Sample receipt condition		X		X
2. Requested analyses and sample results		X		X
3. Master tracking list		X		X
4. Methods of analysis		X		X
5. Reporting Limits		X		X
6. Sample collection date		X		X
7. Laboratory sample received date		X		X
8. Sample preservation verification (as applicable)		X		X
9. Sample preparation/extraction/analysis dates		X		X
10. Fully executed chain of custody form		X		X
11. Narrative summary of quality assurance (QA) or sample problems provided		X		X
12. Data package completeness and compliance		X		X

Laboratory Analysis

Analyses were performed according to United States Environmental Protection Agency (USEPA) Method 300.0 (USEPA 2010). Data were reviewed in accordance with USEPA National Functional Guidelines (USEPA 2005). Summaries of the analytical results are presented in Tables 1 and 2. Laboratory Analytical Reports are presented in Appendices A and B.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and has already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines (USEPA 2005):

- Concentration (C) Qualifiers
 - U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
 - B The compound has been found in the sample as well as its associated blank. Its presence in the sample may be suspect.
- Quantitation (Q) Qualifiers
 - E The compound was quantitated above the calibration range.
 - D Concentration is based on a diluted sample analysis.
- Validation Qualifiers
 - J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
 - UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
 - JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.

- UB The compound is considered non-detect at the listed value due to associated blank contamination.
- N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
- R The sample results are rejected as unusable. The compound may or may not be present in the sample.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data, but any value potentially contains error.

Nitrate

Holding Times

The specified holding time for nitrate (as nitrogen) analyzed by USEPA Method 300.0 is presented in the following table.

Method	Matrix	Holding Time	Preservation
Nitrate as Nitrogen USEPA Method 300.0	Water	48 hours	Cool to $4 \pm 2^{\circ}\text{C}$

The samples were prepared and analyzed within the specified holding time criteria.

Blank Contamination

QA blanks (i.e., laboratory method blanks and equipment rinse blanks) are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Field blanks were collected as part of this dataset at one blank per 10 collected samples.

Sample Delivery Group	Number of Collected Samples	Field Blank Sample Number(s)
SWF0030	11	RW-3048
SWF0049	7	RW-3139, RW-3083

Nitrate associated with the QA blanks exhibited a concentration less than the MDL. No data were qualified based on blank contamination.

Matrix Spike/Matrix Spike Duplicate Samples

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the (optional) MS/MSD analysis must exhibit recoveries within the method-specified acceptance limits of 80 to 120 percent. The relative percent difference (RPD) between the MS and MSD results should be within the laboratory-established acceptance limits of zero to 12.1 percent.

The MS/MSD results were compliant and no data were qualified based on MS/MSD recovery.

Laboratory Control Sample/Ongoing Precision and Recovery Analysis

The LCS/OPR analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/OPR analysis must exhibit recoveries within the method-specified acceptance limits.

All compounds associated with the LCS/OPR analyses exhibited recoveries within the control limits. The LCS/OPR results were compliant and no data were qualified based on LCS/OPR recovery.

Field Duplicate Sample Analysis

The field duplicate sample analysis is used to assess the precision of the field sampling procedures and analytical method. Field duplicate samples were collected as part of this dataset at one duplicate per 10 collected samples.

Sample Delivery Group	Number of Collected Samples	Duplicate Pair Sample Numbers (Sample / Field Duplicate)
SWF0030	11	RW-1127 / RW-2127 RW-1068 / RW-2068
SWF0049	7	RW-1141 / RW-2141

The duplicate results were compliant and no data were qualified based on the relative percent difference between the two samples.

System Performance and Overall Assessment

Overall system performance was acceptable. The reporting limits met the data quality objects. The overall data quality is within the guidelines specified in the method, with the exception of NW-2121. The detected nitrate concentration was qualified as estimated based on non-compliant RPD. No other data were qualified based on the findings of the data validation.

Data Validation Checklist for Nitrate

Nitrate (as Nitrogen): USEPA Method 300.0	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GC/MS					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Field blanks		X			
Laboratory Control Sample (LCS) Accuracy %R		X		X	
LCS Duplicate (LCSD) %R					X
LCS/LCSD Precision (RPD)					X
MS %R		X		X	
MSD %R		X		X	
MS/MSD RPD		X		X	
Field/Laboratory Duplicate Sample RPD		X	X		
Dilution Factor		X		X	
Moisture Content					X

Note: %R Percent recovery

Tables

Table 1
Summary of Analytical Results
Sample Delivery Group SWF0030

Data Useability Summary Report
Yakima Valley Dairies
Residential Well Sampling

Sample No.	Sampled	Type	Analytical Method	Analyte	Result	Units	Qualifier
RW-3048	6/4/2013 16:35	Field Blank	EPA 300.0	Nitrate-Nitrogen	0.2	mg/l	U
RW-1127	6/4/2013 17:06	Well Sample	EPA 300.0	Nitrate-Nitrogen	13.7	mg/l	
RW-2127	6/4/2013 17:07	Duplicate of RW-1127	EPA 300.0	Nitrate-Nitrogen	14	mg/l	
RW-1121	6/4/2013 17:52	Well Sample	EPA 300.0	Nitrate-Nitrogen	15.6	mg/l	
RW-1048	6/4/2013 16:42	Well Sample	EPA 300.0	Nitrate-Nitrogen	9.4	mg/l	
RW-1122	6/4/2013 18:10	Well Sample	EPA 300.0	Nitrate-Nitrogen	26.9	mg/l	
RW-1116	6/4/2013 19:45	Well Sample	EPA 300.0	Nitrate-Nitrogen	4.36	mg/l	
RW-1124	6/4/2013 17:34	Well Sample	EPA 300.0	Nitrate-Nitrogen	18.6	mg/l	
RW-1115	6/4/2013 18:25	Well Sample	EPA 300.0	Nitrate-Nitrogen	7.76	mg/l	
RW-1068	6/5/2013 10:21	Well Sample	EPA 300.0	Nitrate-Nitrogen	30.7	mg/l	
RW-2068	6/5/2013 10:22	Duplicate of RW-1068	EPA 300.0	Nitrate-Nitrogen	29.4	mg/l	
RW-1161	6/5/2013 12:11	Well Sample	EPA 300.0	Nitrate-Nitrogen	5.16	mg/l	
RW-1130	6/5/2013 13:41	Well Sample	EPA 300.0	Nitrate-Nitrogen	3.4	mg/l	
RW-1160	6/5/2013 12:23	Well Sample	EPA 300.0	Nitrate-Nitrogen	9.16	mg/l	

Acronyms and Abbreviations:

mg/l = milligrams per liter

U = The compound was analyzed for but not detected. The result is the compound quantitation limit.

Table 2
Summary of Analytical Results
Sample Delivery Group SWF0049

Data Useability Summary Report
Yakima Valley Dairies
Residential Well Sampling

Sample No.	Sampled	Type	Analytical Method	Analyte	Result	Units	Qualifier
RW-1139	6/5/2013 17:19	Well Sample	EPA 300.0	Nitrate-Nitrogen	30.6	mg/l	
RW-3139	6/5/2013 17:15	Field Blank	EPA 300.0	Nitrate-Nitrogen	0.2	mg/l	U
RW-1153	6/5/2013 18:32	Well Sample	EPA 300.0	Nitrate-Nitrogen	8.78	mg/l	
RW-1165	6/5/2013 19:26	Well Sample	EPA 300.0	Nitrate-Nitrogen	9.3	mg/l	
RW-3083	6/6/2013 9:00	Field Blank	EPA 300.0	Nitrate-Nitrogen	0.2	mg/l	U
RW-1083	6/6/2013 10:52	Well Sample	EPA 300.0	Nitrate-Nitrogen	36.5	mg/l	
RW-1141	6/6/2013 11:16	Well Sample	EPA 300.0	Nitrate-Nitrogen	30.2	mg/l	
RW-2141	6/6/2013 11:20	Duplicate of RW-1141	EPA 300.0	Nitrate-Nitrogen	32.6	mg/l	
RW-1142	6/6/2013 14:08	Well Sample	EPA 300.0	Nitrate-Nitrogen	18.5	mg/l	
RW-1145	6/5/2013 17:56	Well Sample	EPA 300.0	Nitrate-Nitrogen	27.3	mg/l	

Acronyms and Abbreviations:

mg/l = milligrams per liter

U = The compound was analyzed for but not detected. The result is the compound quantitation limit.



Appendix A

TestAmerica Labs
Analytical Report SWF0030

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Spokane

11922 East 1st. Avenue

Spokane, WA 99206

Tel: (509)924-9200

TestAmerica Job ID: SWF0030

Client Project/Site: [none]

Client Project Description: Yakima Dairies

For:

ARCADIS U.S., Inc. - Liberty Lake

695 N. Legacy Ridge Drive, Suite 200

Liberty Lake, WA 99019

Attn: Tom Mullen



Authorized for release by:

6/10/2013 3:45:17 PM

Randee Decker, Project Manager

Randee.Decker@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

3

4

5

6

7

8

9

10

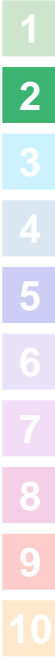


Table of Contents

Cover Page	1
Table of Contents	2
Sample Summary	3
Definitions	4
Client Sample Results	5
QC Sample Results	19
Chronicle	20
Certification Summary	23
Method Summary	24
Chain of Custody	25

Sample Summary

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
SWF0030-01	RW-3048	Water	06/04/13 16:35	06/06/13 08:00
SWF0030-02	RW-1127	Water	06/04/13 17:06	06/06/13 08:00
SWF0030-03	RW-2127	Water	06/04/13 17:07	06/06/13 08:00
SWF0030-04	RW-1121	Water	06/04/13 17:52	06/06/13 08:00
SWF0030-05	RW-1048	Water	06/04/13 16:42	06/06/13 08:00
SWF0030-06	RW-1122	Water	06/04/13 18:10	06/06/13 08:00
SWF0030-07	RW-1116	Water	06/04/13 19:45	06/06/13 08:00
SWF0030-08	RW-1124	Water	06/04/13 17:34	06/06/13 08:00
SWF0030-09	RW-1115	Water	06/04/13 18:25	06/06/13 08:00
SWF0030-10	RW-2068	Water	06/05/13 10:22	06/06/13 08:00
SWF0030-11	RW-1161	Water	06/05/13 12:11	06/06/13 08:00
SWF0030-12	RW-1068	Water	06/05/13 10:21	06/06/13 08:00
SWF0030-13	RW-1130	Water	06/05/13 13:41	06/06/13 08:00
SWF0030-14	RW-1160	Water	06/05/13 12:23	06/06/13 08:00

Definitions/Glossary

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Client Sample ID: RW-3048

Lab Sample ID: SWF0030-01

Date Collected: 06/04/13 16:35

Matrix: Water

Date Received: 06/06/13 08:00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	ND		0.200		mg/l		06/06/13 08:29	06/06/13 08:30	1.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Client Sample ID: RW-1127

Lab Sample ID: SWF0030-02

Date Collected: 06/04/13 17:06

Matrix: Water

Date Received: 06/06/13 08:00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	13.7		0.400		mg/l		06/06/13 08:29	06/06/13 08:49	2.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Client Sample ID: RW-2127

Lab Sample ID: SWF0030-03

Date Collected: 06/04/13 17:07

Matrix: Water

Date Received: 06/06/13 08:00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	14.0		0.200		mg/l		06/06/13 08:59	06/06/13 09:07	1.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Client Sample ID: RW-1121

Lab Sample ID: SWF0030-04

Date Collected: 06/04/13 17:52

Matrix: Water

Date Received: 06/06/13 08:00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	15.6		0.400		mg/l		06/06/13 08:59	06/06/13 09:26	2.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Client Sample ID: RW-1048

Lab Sample ID: SWF0030-05

Date Collected: 06/04/13 16:42

Matrix: Water

Date Received: 06/06/13 08:00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	9.40		0.400		mg/l		06/06/13 08:59	06/06/13 09:44	2.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Client Sample ID: RW-1122

Lab Sample ID: SWF0030-06

Date Collected: 06/04/13 18:10

Matrix: Water

Date Received: 06/06/13 08:00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	26.9		0.400		mg/l		06/06/13 08:59	06/06/13 10:03	2.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Client Sample ID: RW-1116

Lab Sample ID: SWF0030-07

Date Collected: 06/04/13 19:45

Matrix: Water

Date Received: 06/06/13 08:00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	4.36		0.400		mg/l		06/06/13 08:59	06/06/13 10:22	2.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Client Sample ID: RW-1124

Lab Sample ID: SWF0030-08

Date Collected: 06/04/13 17:34

Matrix: Water

Date Received: 06/06/13 08:00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	18.6		0.400		mg/l		06/06/13 08:59	06/06/13 10:40	2.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Client Sample ID: RW-1115

Lab Sample ID: SWF0030-09

Date Collected: 06/04/13 18:25

Matrix: Water

Date Received: 06/06/13 08:00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	7.76		0.400		mg/l		06/06/13 08:59	06/06/13 10:59	2.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Client Sample ID: RW-2068

Lab Sample ID: SWF0030-10

Date Collected: 06/05/13 10:22

Matrix: Water

Date Received: 06/06/13 08:00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	29.4		2.00		mg/l		06/06/13 08:59	06/06/13 13:47	10.0

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Client Sample ID: RW-1161

Lab Sample ID: SWF0030-11

Date Collected: 06/05/13 12:11

Matrix: Water

Date Received: 06/06/13 08:00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	5.16		0.400		mg/l		06/06/13 08:59	06/06/13 11:36	2.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Client Sample ID: RW-1068

Lab Sample ID: SWF0030-12

Date Collected: 06/05/13 10:21

Matrix: Water

Date Received: 06/06/13 08:00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	30.7		0.400		mg/l		06/06/13 08:59	06/06/13 11:55	2.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Client Sample ID: RW-1130

Lab Sample ID: SWF0030-13

Date Collected: 06/05/13 13:41

Matrix: Water

Date Received: 06/06/13 08:00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	3.40		0.400		mg/l		06/06/13 08:59	06/06/13 12:13	2.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Client Sample ID: RW-1160

Lab Sample ID: SWF0030-14

Date Collected: 06/05/13 12:23

Matrix: Water

Date Received: 06/06/13 08:00

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	9.16		0.400		mg/l		06/06/13 08:59	06/06/13 12:32	2.00

QC Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Method: EPA 300.0 - Anions by EPA Method 300.0

Lab Sample ID: 13F0034-BLK1

Matrix: Water

Analysis Batch: 13F0034

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 13F0034_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	ND		0.200		mg/l		06/06/13 08:59	06/06/13 14:24	1.00

Lab Sample ID: 13F0034-BS1

Matrix: Water

Analysis Batch: 13F0034

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 13F0034_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate-Nitrogen	5.00	4.99		mg/l		99.8	90 - 110

Lab Sample ID: 13F0034-MS1

Matrix: Water

Analysis Batch: 13F0034

Client Sample ID: RW-3048

Prep Type: Total

Prep Batch: 13F0034_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate-Nitrogen	ND		5.00	4.85		mg/l		97.0	80 - 120

Lab Sample ID: 13F0034-MSD1

Matrix: Water

Analysis Batch: 13F0034

Client Sample ID: RW-3048

Prep Type: Total

Prep Batch: 13F0034_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate-Nitrogen	ND		5.00	4.85		mg/l		97.0	80 - 120	0.00	12.1

Lab Sample ID: 13F0034-DUP1

Matrix: Water

Analysis Batch: 13F0034

Client Sample ID: RW-3048

Prep Type: Total

Prep Batch: 13F0034_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Nitrate-Nitrogen	ND		ND		mg/l			13.1

TestAmerica Spokane

Lab Chronicle

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Client Sample ID: RW-3048

Lab Sample ID: SWF0030-01

Date Collected: 06/04/13 16:35

Matrix: Water

Date Received: 06/06/13 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0034_P	06/06/13 08:29	CBW	TAL SPK
Total	Analysis	EPA 300.0		1.00	13F0034	06/06/13 08:30	CBW	TAL SPK

Client Sample ID: RW-1127

Lab Sample ID: SWF0030-02

Date Collected: 06/04/13 17:06

Matrix: Water

Date Received: 06/06/13 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0034_P	06/06/13 08:29	CBW	TAL SPK
Total	Analysis	EPA 300.0		2.00	13F0034	06/06/13 08:49	CBW	TAL SPK

Client Sample ID: RW-2127

Lab Sample ID: SWF0030-03

Date Collected: 06/04/13 17:07

Matrix: Water

Date Received: 06/06/13 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0034_P	06/06/13 08:59	CBW	TAL SPK
Total	Analysis	EPA 300.0		1.00	13F0034	06/06/13 09:07	CBW	TAL SPK

Client Sample ID: RW-1121

Lab Sample ID: SWF0030-04

Date Collected: 06/04/13 17:52

Matrix: Water

Date Received: 06/06/13 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0034_P	06/06/13 08:59	CBW	TAL SPK
Total	Analysis	EPA 300.0		2.00	13F0034	06/06/13 09:26	CBW	TAL SPK

Client Sample ID: RW-1048

Lab Sample ID: SWF0030-05

Date Collected: 06/04/13 16:42

Matrix: Water

Date Received: 06/06/13 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0034_P	06/06/13 08:59	CBW	TAL SPK
Total	Analysis	EPA 300.0		2.00	13F0034	06/06/13 09:44	CBW	TAL SPK

Client Sample ID: RW-1122

Lab Sample ID: SWF0030-06

Date Collected: 06/04/13 18:10

Matrix: Water

Date Received: 06/06/13 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0034_P	06/06/13 08:59	CBW	TAL SPK
Total	Analysis	EPA 300.0		2.00	13F0034	06/06/13 10:03	CBW	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Client Sample ID: RW-1116

Lab Sample ID: SWF0030-07

Date Collected: 06/04/13 19:45

Matrix: Water

Date Received: 06/06/13 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0034_P	06/06/13 08:59	CBW	TAL SPK
Total	Analysis	EPA 300.0		2.00	13F0034	06/06/13 10:22	CBW	TAL SPK

Client Sample ID: RW-1124

Lab Sample ID: SWF0030-08

Date Collected: 06/04/13 17:34

Matrix: Water

Date Received: 06/06/13 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0034_P	06/06/13 08:59	CBW	TAL SPK
Total	Analysis	EPA 300.0		2.00	13F0034	06/06/13 10:40	CBW	TAL SPK

Client Sample ID: RW-1115

Lab Sample ID: SWF0030-09

Date Collected: 06/04/13 18:25

Matrix: Water

Date Received: 06/06/13 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0034_P	06/06/13 08:59	CBW	TAL SPK
Total	Analysis	EPA 300.0		2.00	13F0034	06/06/13 10:59	CBW	TAL SPK

Client Sample ID: RW-2068

Lab Sample ID: SWF0030-10

Date Collected: 06/05/13 10:22

Matrix: Water

Date Received: 06/06/13 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0034_P	06/06/13 08:59	CBW	TAL SPK
Total	Analysis	EPA 300.0		10.0	13F0034	06/06/13 13:47	CBW	TAL SPK

Client Sample ID: RW-1161

Lab Sample ID: SWF0030-11

Date Collected: 06/05/13 12:11

Matrix: Water

Date Received: 06/06/13 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0034_P	06/06/13 08:59	CBW	TAL SPK
Total	Analysis	EPA 300.0		2.00	13F0034	06/06/13 11:36	CBW	TAL SPK

Client Sample ID: RW-1068

Lab Sample ID: SWF0030-12

Date Collected: 06/05/13 10:21

Matrix: Water

Date Received: 06/06/13 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0034_P	06/06/13 08:59	CBW	TAL SPK
Total	Analysis	EPA 300.0		2.00	13F0034	06/06/13 11:55	CBW	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Client Sample ID: RW-1130

Lab Sample ID: SWF0030-13

Date Collected: 06/05/13 13:41

Matrix: Water

Date Received: 06/06/13 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0034_P	06/06/13 08:59	CBW	TAL SPK
Total	Analysis	EPA 300.0		2.00	13F0034	06/06/13 12:13	CBW	TAL SPK

Client Sample ID: RW-1160

Lab Sample ID: SWF0030-14

Date Collected: 06/05/13 12:23

Matrix: Water

Date Received: 06/06/13 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0034_P	06/06/13 08:59	CBW	TAL SPK
Total	Analysis	EPA 300.0		2.00	13F0034	06/06/13 12:32	CBW	TAL SPK

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200

Certification Summary

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Laboratory: TestAmerica Spokane

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-071	10-31-13
Washington	State Program	10	C569	01-06-14

Method Summary

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0030

Method	Method Description	Protocol	Laboratory
EPA 300.0	Anions by EPA Method 300.0		TAL SPK

Protocol References:

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

5755 8th Street East, Tacoma, WA 98424-1317
11922 E. First Ave., Spokane WA 99206-5302
9405 SW Nimbus Ave., Beaverton, OR 97008-7145
2000 W International Airport Rd Site A10, Anchorage, AK 99502-1119

253-922-2310 FAX 922-5047
509-924-9200 FAX 924-9290
503-906-9200 FAX 906-9210
907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

CLIENT: ARCADIS		INVOICE TO: ARCADIS US		Work Order # WFO030	
REPORT TO: TMULLIN		PRESERVATIVE		TURNAROUND REQUEST	
ADDRESS: 1095 N. Legacy Ridge Dr Suite 200 Liberty Lake WA 99019		P.O. NUMBER:		<input type="checkbox"/> Organic & Inorganic Analyses <input checked="" type="checkbox"/> Petroleum Hydrocarbon Analyses <input type="checkbox"/> STD.	
PHONE:		PROJECT NAME: Yakima Valley District		<input type="checkbox"/> STD.	
PROJECT NUMBER: 730		REQUESTED ANALYSES		<input type="checkbox"/> STD.	
SAMPLED BY: Shelton & Lynn		SPECIMEN IDENTIFICATION		<input type="checkbox"/> OTHER Specify:	
SAMPLING DATE/TIME		SAMPLING DATE/TIME		<input type="checkbox"/> STD.	
1. RW-3048		6-4-13 1635		<input type="checkbox"/> STD.	
2. RW-1127		1706		<input type="checkbox"/> STD.	
3. RW-2127		1707		<input type="checkbox"/> STD.	
4. RW-1121		1752		<input type="checkbox"/> STD.	
5. RW-1048		1842		<input type="checkbox"/> STD.	
6. RW-1122		1810		<input type="checkbox"/> STD.	
7. RW-1116		1945		<input type="checkbox"/> STD.	
8. RW-1124		1734		<input type="checkbox"/> STD.	
9. RW-1115		1925		<input type="checkbox"/> STD.	
10. RW-2068		6-5-13 1022		<input type="checkbox"/> STD.	
RELEASED BY: Rudolf Schaefer		DATE: 6-5-13		RECEIVED BY: Chris Williams	
PRINT NAME: Rudolf Schaefer		TIME: 1500		PRINT NAME: Chris Williams	
RELEASED BY:		DATE: to be dby		RECEIVED BY:	
PRINT NAME:		TIME:		PRINT NAME:	
ADDITIONAL REMARKS:		FIRM: ARCADIS		FIRM: ARCADIS	
		FIRM:		FIRM:	
		TEMP: 3.9		PAGE: 1 OF 2	

TAL-1000 (0612)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

5755 8th Street East, Tacoma, WA 98424-1317
11922 E. First Ave., Spokane, WA 99206-5302
9405 SW Nimbus Ave., Beaverton, OR 97008-7145
2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119

253-922-2310 FAX 922-5047
509-924-9200 FAX 924-9290
503-906-9200 FAX 906-9210
907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: **SWF0030**

CLIENT: ARCADIS		INVOICE TO: ARCADIS-US		TURNAROUND REQUEST	
REPORT TO: T. Mubler		P.O. NUMBER:		<input type="checkbox"/> 10 STD. <input checked="" type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 Organic & Inorganic Analyses <input type="checkbox"/> 10 STD. <input checked="" type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 Petroleum Hydrocarbon Analyses	
PHONE:		FAX:		OTHER Specify:	
PROJECT NAME: Yakima Valley Dairies		PRESERVATIVE:		MATRIX (W, S, O) W LOCATION/COMMENTS: ↓ TA W/O ID:	
PROJECT NUMBER:		REQUESTED ANALYSES:		# OF CONT. 1	
SAMPLED BY: Substana + Lyon		* Turnaround Request: less than standard may incur Rush Charges.			
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME				
1. RW-1161	10-5-13 1011	↓			
2. RW-1068	10-5-13 1021	↓			
3. RW-1130	10-5-13 1341	↓			
4. RW-1160	10-5-13 1023	↓			
5.					
6.					
7.					
8.					
9.					
10.					
RELEASED BY: Ryan M. Substana		DATE: 6-5-13		DATE: 6-5-13	
PRINT NAME:		TIME: 1500		TIME: 000	
FIRM: ARCADIS		FIRM: ARCADIS		FIRM: ARCADIS	
RELEASED BY: T. Mubler		DATE: 6-5-13		DATE: 6-5-13	
PRINT NAME:		TIME: 1500		TIME: 000	
FIRM: ARCADIS		FIRM: ARCADIS		FIRM: ARCADIS	
ADDITIONAL REMARKS:		TEMP: 3.4		PAGE: 22 OF 22	

**TestAmerica Spokane
Sample Receipt Form**

Work Order #: SNF0030	Client: Arcadis	Project: YVD		
Date/Time Received: 6-6-13 8:00	By: CW			
Samples Delivered By: <input type="checkbox"/> Shipping Service <input checked="" type="checkbox"/> Courier <input type="checkbox"/> Client <input type="checkbox"/> Other: FEDEX # 8020 4658 2342				
List Air Bill Number(s) or Attach a photocopy of the Air Bill:				
Receipt Phase	Yes	No	NA	Comments
Were samples received in a cooler:	X			
Custody Seals are present and intact:	X			
Are CoC documents present:	X			
Necessary signatures:	X			
Thermal Preservation Type: <input type="checkbox"/> Blue Ice <input type="checkbox"/> Gel Ice <input checked="" type="checkbox"/> Real Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> None <input type="checkbox"/> Other:				
Temperature: 3.4 °C Thermometer (Circle one Serial # 422208348 Keyring IR Serial # 111874910 IR Gun 2) (acceptance criteria 0-6)				
Temperature out of range: <input type="checkbox"/> Not enough ice <input type="checkbox"/> Ice melted <input type="checkbox"/> w/in 4hrs of collection <input type="checkbox"/> NA <input type="checkbox"/> Other:				
Log-in Phase	Yes	No	NA	Comments
Date/Time: 6-6-13 8:30 By: PH				
Are sample labels affixed and completed for each container	X			
Samples containers were received intact:	X			
Do sample IDs match the CoC	X			
Appropriate sample containers were received for tests requested	X			
Are sample volumes adequate for tests requested	X			
Appropriate preservatives were used for the tests requested	X			
pH of inorganic samples checked and is within method specification	X			
Are VOC samples free of bubbles >6mm (1/4" diameter)			X	
Are dissolved parameters field filtered			X	
Do any samples need to be filtered or preserved by the lab			X	
Does this project require quick turnaround analysis		X		
Are there any short hold time tests (see chart below)	X			Nitrate
Are any samples within 2 days of or past expiration	X			Nitrate
Was the CoC scanned	X			
Were there Non-conformance issues at login		X		
If yes, was a CAR generated #			X	

24 hours or less	48 hours	7 days
Coliform Bacteria	BOD, Color, MBAS	TDS, TSS, VDS, FDS
Chromium +6	Nitrate/Nitrite	Sulfide
	Orthophosphate	Aqueous Organic Prep

Form No. SP-FORM-SPL-002 12 December 2012



Appendix B

TestAmerica Labs
Analytical Report SWF0049

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Spokane

11922 East 1st. Avenue

Spokane, WA 99206

Tel: (509)924-9200

TestAmerica Job ID: SWF0049

Client Project/Site: [none]

Client Project Description: Yakima Dairies

For:

ARCADIS U.S., Inc. - Liberty Lake

695 N. Legacy Ridge Drive, Suite 200

Liberty Lake, WA 99019

Attn: Tom Mullen



Authorized for release by:

6/10/2013 3:50:13 PM

Randee Decker, Project Manager

Randee.Decker@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

3

4

5

6

7

8

9

10



Table of Contents

Cover Page	1
Table of Contents	2
Sample Summary	3
Definitions	4
Client Sample Results	5
QC Sample Results	15
Chronicle	16
Certification Summary	18
Method Summary	19
Chain of Custody	20

Sample Summary

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0049

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
SWF0049-01	RW-1153	Water	06/05/13 18:32	06/07/13 11:30
SWF0049-02	RW-2141	Water	06/06/13 11:20	06/07/13 11:30
SWF0049-03	RW-1139	Water	06/05/13 17:19	06/07/13 11:30
SWF0049-04	RW-3139	Water	06/05/13 17:15	06/07/13 11:30
SWF0049-05	RW-1165	Water	06/05/13 19:26	06/07/13 11:30
SWF0049-06	RW-3083	Water	06/06/13 09:00	06/07/13 11:30
SWF0049-07	RW-1141	Water	06/06/13 11:16	06/07/13 11:30
SWF0049-08	RW-1083	Water	06/06/13 10:52	06/07/13 11:30
SWF0049-09	RW-1142	Water	06/06/13 14:08	06/07/13 11:30
SWF0049-10	RW-1145	Water	06/05/13 17:56	06/07/13 11:30

Definitions/Glossary

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0049

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0049

Client Sample ID: RW-1153

Lab Sample ID: SWF0049-01

Date Collected: 06/05/13 18:32

Matrix: Water

Date Received: 06/07/13 11:30

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	8.78		0.400		mg/l		06/07/13 10:47	06/07/13 11:49	2.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0049

Client Sample ID: RW-2141

Lab Sample ID: SWF0049-02

Date Collected: 06/06/13 11:20

Matrix: Water

Date Received: 06/07/13 11:30

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	32.6		2.00		mg/l		06/07/13 10:47	06/07/13 13:23	10.0

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0049

Client Sample ID: RW-1139

Lab Sample ID: SWF0049-03

Date Collected: 06/05/13 17:19

Matrix: Water

Date Received: 06/07/13 11:30

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	30.6		0.400		mg/l		06/07/13 10:47	06/07/13 12:08	2.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0049

Client Sample ID: RW-3139

Lab Sample ID: SWF0049-04

Date Collected: 06/05/13 17:15

Matrix: Water

Date Received: 06/07/13 11:30

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	ND		0.200		mg/l		06/07/13 10:47	06/07/13 12:27	1.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0049

Client Sample ID: RW-1165

Lab Sample ID: SWF0049-05

Date Collected: 06/05/13 19:26

Matrix: Water

Date Received: 06/07/13 11:30

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	9.30		0.400		mg/l		06/07/13 10:47	06/07/13 12:45	2.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0049

Client Sample ID: RW-3083

Lab Sample ID: SWF0049-06

Date Collected: 06/06/13 09:00

Matrix: Water

Date Received: 06/07/13 11:30

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	ND		0.200		mg/l		06/07/13 10:47	06/07/13 13:41	1.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0049

Client Sample ID: RW-1141

Lab Sample ID: SWF0049-07

Date Collected: 06/06/13 11:16

Matrix: Water

Date Received: 06/07/13 11:30

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	30.2		0.400		mg/l		06/07/13 10:47	06/07/13 14:00	2.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0049

Client Sample ID: RW-1083

Lab Sample ID: SWF0049-08

Date Collected: 06/06/13 10:52

Matrix: Water

Date Received: 06/07/13 11:30

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	36.5		0.400		mg/l		06/07/13 10:47	06/07/13 14:18	2.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0049

Client Sample ID: RW-1142

Lab Sample ID: SWF0049-09

Date Collected: 06/06/13 14:08

Matrix: Water

Date Received: 06/07/13 11:30

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	18.5		0.400		mg/l		06/07/13 10:47	06/07/13 14:37	2.00

Client Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0049

Client Sample ID: RW-1145

Lab Sample ID: SWF0049-10

Date Collected: 06/05/13 17:56

Matrix: Water

Date Received: 06/07/13 11:30

Method: EPA 300.0 - Anions by EPA Method 300.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	27.3		0.400		mg/l		06/07/13 10:47	06/07/13 13:04	2.00

QC Sample Results

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0049

Method: EPA 300.0 - Anions by EPA Method 300.0

Lab Sample ID: 13F0043-BLK1

Matrix: Water

Analysis Batch: 13F0043

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 13F0043_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate-Nitrogen	ND		0.200		mg/l		06/07/13 10:58	06/07/13 16:10	1.00

Lab Sample ID: 13F0043-BS1

Matrix: Water

Analysis Batch: 13F0043

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 13F0043_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate-Nitrogen	5.00	4.94		mg/l		98.8	90 - 110

Lab Sample ID: 13F0043-MS1

Matrix: Water

Analysis Batch: 13F0043

Client Sample ID: RW-3083

Prep Type: Total

Prep Batch: 13F0043_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate-Nitrogen	ND		5.00	4.81		mg/l		96.1	80 - 120

Lab Sample ID: 13F0043-MSD1

Matrix: Water

Analysis Batch: 13F0043

Client Sample ID: RW-3083

Prep Type: Total

Prep Batch: 13F0043_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate-Nitrogen	ND		5.00	4.82		mg/l		96.4	80 - 120	0.229	12.1

Lab Sample ID: 13F0043-DUP1

Matrix: Water

Analysis Batch: 13F0043

Client Sample ID: RW-3083

Prep Type: Total

Prep Batch: 13F0043_P

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Nitrate-Nitrogen	ND		ND		mg/l			13.1

TestAmerica Spokane

Lab Chronicle

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0049

Client Sample ID: RW-1153

Lab Sample ID: SWF0049-01

Date Collected: 06/05/13 18:32

Matrix: Water

Date Received: 06/07/13 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0043_P	06/07/13 10:47	CBW	TAL SPK
Total	Analysis	EPA 300.0		2.00	13F0043	06/07/13 11:49	CBW	TAL SPK

Client Sample ID: RW-2141

Lab Sample ID: SWF0049-02

Date Collected: 06/06/13 11:20

Matrix: Water

Date Received: 06/07/13 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0043_P	06/07/13 10:47	CBW	TAL SPK
Total	Analysis	EPA 300.0		10.0	13F0043	06/07/13 13:23	CBW	TAL SPK

Client Sample ID: RW-1139

Lab Sample ID: SWF0049-03

Date Collected: 06/05/13 17:19

Matrix: Water

Date Received: 06/07/13 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0043_P	06/07/13 10:47	CBW	TAL SPK
Total	Analysis	EPA 300.0		2.00	13F0043	06/07/13 12:08	CBW	TAL SPK

Client Sample ID: RW-3139

Lab Sample ID: SWF0049-04

Date Collected: 06/05/13 17:15

Matrix: Water

Date Received: 06/07/13 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0043_P	06/07/13 10:47	CBW	TAL SPK
Total	Analysis	EPA 300.0		1.00	13F0043	06/07/13 12:27	CBW	TAL SPK

Client Sample ID: RW-1165

Lab Sample ID: SWF0049-05

Date Collected: 06/05/13 19:26

Matrix: Water

Date Received: 06/07/13 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0043_P	06/07/13 10:47	CBW	TAL SPK
Total	Analysis	EPA 300.0		2.00	13F0043	06/07/13 12:45	CBW	TAL SPK

Client Sample ID: RW-3083

Lab Sample ID: SWF0049-06

Date Collected: 06/06/13 09:00

Matrix: Water

Date Received: 06/07/13 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0043_P	06/07/13 10:47	CBW	TAL SPK
Total	Analysis	EPA 300.0		1.00	13F0043	06/07/13 13:41	CBW	TAL SPK

TestAmerica Spokane

Lab Chronicle

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0049

Client Sample ID: RW-1141

Lab Sample ID: SWF0049-07

Date Collected: 06/06/13 11:16

Matrix: Water

Date Received: 06/07/13 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0043_P	06/07/13 10:47	CBW	TAL SPK
Total	Analysis	EPA 300.0		2.00	13F0043	06/07/13 14:00	CBW	TAL SPK

Client Sample ID: RW-1083

Lab Sample ID: SWF0049-08

Date Collected: 06/06/13 10:52

Matrix: Water

Date Received: 06/07/13 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0043_P	06/07/13 10:47	CBW	TAL SPK
Total	Analysis	EPA 300.0		2.00	13F0043	06/07/13 14:18	CBW	TAL SPK

Client Sample ID: RW-1142

Lab Sample ID: SWF0049-09

Date Collected: 06/06/13 14:08

Matrix: Water

Date Received: 06/07/13 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0043_P	06/07/13 10:47	CBW	TAL SPK
Total	Analysis	EPA 300.0		2.00	13F0043	06/07/13 14:37	CBW	TAL SPK

Client Sample ID: RW-1145

Lab Sample ID: SWF0049-10

Date Collected: 06/05/13 17:56

Matrix: Water

Date Received: 06/07/13 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total	Prep	Wet Chem		1.00	13F0043_P	06/07/13 10:47	CBW	TAL SPK
Total	Analysis	EPA 300.0		2.00	13F0043	06/07/13 13:04	CBW	TAL SPK

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200

Certification Summary

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0049

Laboratory: TestAmerica Spokane

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-071	10-31-13
Washington	State Program	10	C569	01-06-14

Method Summary

Client: ARCADIS U.S., Inc. - Liberty Lake
Project/Site: [none]

TestAmerica Job ID: SWF0049

Method	Method Description	Protocol	Laboratory
EPA 300.0	Anions by EPA Method 300.0		TAL SPK

Protocol References:

Laboratory References:

TAL SPK = TestAmerica Spokane, 11922 East 1st. Avenue, Spokane, WA 99206, TEL (509)924-9200

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

5755 8th Street East, Tacoma, WA 98424-1317 253-922-2310 FAX 922-5047
 11922 E. First Ave., Spokane WA 99206-5302 509-924-9200 FAX 924-9290
 9405 SW Nimbus Ave., Beaverton, OR 97008-7145 503-906-9200 FAX 906-9210
 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119 907-563-9200 FAX 563-9210

CHAIN OF CUSTODY REPORT

Work Order #: **SINPOU4**

CLIENT: ACORDS		INVOICE TO:		PRESERVATIVE		REQUESTED ANALYSES		OTHER Specify:	
REPORT TO: Tom Miller		ADDRESS: 695 W. 1st Ave Legacy Ridge Drive		PO. NUMBER:		ACORDS-118		<input checked="" type="checkbox"/> Organic & Inorganic Analyses <input type="checkbox"/> Petroleum Hydrocarbon Analyses <input type="checkbox"/> Other	
PROJECT NAME: Yakima Valley Drives		PROJECT NUMBER:		DATE: 6-7-13		TIME: 11:30		DATE: 6-7-13	
SAMPLED BY: Shelby + Mike		CLIENT SAMPLE IDENTIFICATION		SAMPLING DATE/TIME		MATRIX (W, S, O)		# OF CONT.	
1. RU-1153		6-5-13		1832		X		1	
2. RU-2141		6-6-13		1120		1		1	
3. RU-1139		6-5-13		1837		1		1	
4. RU-3139		6-5-13		1715		1		1	
5. RU-1145		6-5-13		1924		1		1	
6. RU-3083		6-6-13		908		1		1	
7. RU-1141		6-6-13		1114		1		1	
8. RU-1083		6-6-13		1052		1		1	
9. RU-1142		6-6-13		1408		1		1	
10. RU-1145		6-5-13		1740		1		1	
RELEASED BY: Shelby		FIRM: ACORDS		DATE: 6-7-13		TIME: 11:30		DATE: 6-7-13	
PRINT NAME: Shelby		FIRM: ACORDS		DATE: 6-7-13		TIME: 11:30		DATE: 6-7-13	
ADDITIONAL REMARKS:		FIRM: ACORDS		DATE: 6-7-13		TIME: 11:30		DATE: 6-7-13	

**TestAmerica Spokane
Sample Receipt Form**

Work Order # <u>SWFO049</u>	Client: <u>Arcadis</u>	Project: <u>Nakima Dairies</u>		
Date/Time Received: <u>6-7-13</u>	By: <u>CS</u>			
Samples Delivered By: <input type="checkbox"/> Shipping Service <input type="checkbox"/> Courier <input checked="" type="checkbox"/> Client <input type="checkbox"/> Other: _____				
List Air Bill Number(s) or Attach a photocopy of the Air Bill:				
Receipt Phase	Yes	No	NA	Comments
Were samples received in a cooler:	X			
Custody Seals are present and intact:			X	
Are CoC documents present:	X			
Necessary signatures:	X			
Thermal Preservation Type: <input type="checkbox"/> Blue Ice <input type="checkbox"/> Gel Ice <input checked="" type="checkbox"/> Real Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> None <input type="checkbox"/> Other: _____				
Temperature: <u>3.2</u> °C Thermometer (Circle one Serial # <u>122208348</u> Keyring IR Serial # 111874910 IR Gun 2) (acceptance criteria 0-6)				
Temperature out of range: <input type="checkbox"/> Not enough ice <input type="checkbox"/> Ice melted <input type="checkbox"/> w/in 4hrs of collection <input type="checkbox"/> NA <input type="checkbox"/> Other: _____				
Log-In Phase	Yes	No	NA	Comments
Date/Time: <u>6-7-13 11:33</u> By: <u>(CS)</u>				
Are sample labels affixed and completed for each container	X			
Samples containers were received intact:	X			
Do sample IDs match the CoC	X			
Appropriate sample containers were received for tests requested	X			
Are sample volumes adequate for tests requested	X			
Appropriate preservatives were used for the tests requested	X			
pH of inorganic samples checked and is within method specification	X			
Are VOC samples free of bubbles >6mm (1/4" diameter)			X	
Are dissolved parameters field filtered			X	
Do any samples need to be filtered or preserved by the lab		X		
Does this project require quick turnaround analysis		X		
Are there any short hold time tests (see chart below)	X	X		Nitrate
Are any samples within 2 days of or past expiration	X			Nitrate
Was the CoC scanned	X			
Were there Non-conformance issues at login		X		
If yes, was a CAR generated #			0	

24 hours or less	48 hours	7 days
Coliform Bacteria	BOD, Color, MBAS	TDS, TSS, VDS, FDS
Chromium +6	Nitrate/Nitrite	Sulfide
	Orthophosphate	Aqueous Organic Prep

Form No. SP-FORM-SPL-002 12 December 2012